

medical officer" when there are four of each; we forget that because Scotland has a different legal system different laws of consent apply. Mr Morris, an assiduous reader of the *BMJ*, finds mistakes in every issue. We are well aware of the problem and have been working for over a year to do better: often we do, but often we slip back.

The difficulty is that the problem goes deep. It is, indeed, a local version of the problem of aspiring to be international but being irretrievably British. Despite our extensive connections with the other countries of the United Kingdom and our regular visits to them, we are mostly in London thinking London thoughts and mixing with its many busybodies. Being Londoncentric has mattered less when most of the important decisions affecting the United Kingdom, including its health care, have been made in London. Ministers from Northern Ireland, Scotland, and Wales have spent as much time in London as in their home countries. Now power is beginning to flow from London to Belfast, Cardiff, and Edinburgh, and being Londoncentric is a bigger problem, one shared by most institutions based in London but aspiring to be British (or institutions based in Madrid but aspiring to be genuinely Spanish).

To overcome the problem and be genuinely British we have to pay attention to both input and output. In order to improve and be part of the debate on health care in Northern Ireland, Scotland, and Wales we may need to do more than have excellent stringers in those countries. At the very least we, the editors, need to increase the number of conversations we have with people in the three countries of the United Kingdom other than England, and we may need to split our editorial team among the four capitals (I'll volunteer for Edinburgh). But then we still have the problem of

output: the doctors of Auchtermuchty, Llandudno, and Port Stewart may be used to be reading more about England than they want to know, but do they want to read as much about the other countries that are not their own? Probably not. And do the doctors of Kettering want to read as much about Northern Ireland, Scotland, and Wales as England? I suspect not, which perhaps means we will need four editions of the *BMJ*. And these debates will become much more intense if the parts of the United Kingdom become completely separate countries.

Yet parochialism is rarely a virtue, and there are plenty of other forces to make doctors look outwards: the internationalism of medicine, globalisation, and the increasing influence of the European Union. So we face the tension of being more international but at the same time improving coverage of issues in the four countries of the United Kingdom. Luckily we are used to tensions—for example, pleasing authors who want longer papers and readers who want shorter ones, and being simultaneously more rigorous and more readable. The world wide web may, yet again, be the ultimate answer.

We will find ways to rise to the challenge of making the *BMJ* still more useful in an age of devolution, but let me end by pointing out that the problems faced by the *BMJ* are those faced by many national institutions in devolving countries.

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1 Morris A. *BMJ* should stop confusing its readers over national differences. *BMJ* 1999;318:1221.

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Vaccination and type 1 diabetes mellitus

Currently no evidence of a link, but more studies are needed as vaccines change

Papers p 1169

The massive reduction of invasive disease due to *Haemophilus influenzae* type b has been an outstanding example of the value of immunisation. However, as has been the case with several vaccines, memory of the devastation caused by the disease rapidly fades and is replaced by concerns about the safety of the vaccine. These are often unfounded, but untold damage can result.¹

Coincident with the increase in the number of vaccines given to children there has been a significant rise in the incidence of a number of poorly understood conditions, such as asthma, autism, and diabetes mellitus, has been noted in children in many countries.² Of course this temporal association does not prove a causal link, and the increase in incidence often predates the introduction of most vaccines. However, the temporal associations have raised questions, and such concerns should not be dismissed out of hand.

Classen and Classen have suggested that immunisation after the age of 2 months is associated with an increased risk of diabetes mellitus in rodents and humans.³ Latterly they have specifically implicated

H influenzae type b vaccine as having this potential.⁴ One of the most extensive studies reported to date examined the effect of vaccination (excluding *H influenzae* type b vaccination, which had only been recently introduced) on the incidence of type 1 diabetes in Swedish children.⁵ No single vaccine, or combination of vaccines, was linked to an increase in diabetes, and children who had received a measles vaccine had a decreased risk (odds ratio 0.69, confidence interval 0.48 to 0.98). Last year Jefferson and Demicheli published a systematic review of the possible link between immunisation and diabetes mellitus.⁶ They found few studies that addressed the issue and none that confirmed a link, though no studies had examined an association with *H influenzae* type b vaccine. It is against this background that the paper by Karvonen et al in this week's *BMJ* is particularly timely (p 1169).⁷

The authors have compared the incidence of diabetes mellitus in three groups of Finnish children. Children in cohort 1 were born between 1 October 1983 and 1 September 1985. They received the vaccines that were part of the routine schedule at the

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time, which did not include *H influenzae* type b vaccine. Cohorts 2 and 3 comprised children born between 1 October 1985 and 31 August 1987. The children in cohort 2 received the routine vaccines and *H influenzae* type b vaccine at 3, 4, 6, and 14-18 months. Those in cohort 3 received the routine vaccines and *H influenzae* type b vaccine at 24 months. Diagnoses of diabetes mellitus made by December 1997 were collected from a national register proved to have complete coverage. The *H influenzae* type b vaccine used was a conjugate using diphtheria toxoid (PRP-D). The authors found no statistical difference in the cumulative incidence of diabetes at the age of 10 between the cohorts. This was a well designed and very carefully conducted study whose methodology cannot be criticised, so we can be reassured about the validity of the findings.

In March 1998 a workshop was convened at the Johns Hopkins School of Public Health to address concerns about the relation between type 1 diabetes and immunisations.⁸ The workshop panel was drawn from many disciplines and considered evidence from various sources, including conflicting interpretations of the data from the study reported this week by Karvonen et al.⁴ The panel concluded that "selective vaccines are protective against type 1 diabetes in animals but the data in humans are inconclusive and no vaccines have been shown to increase the risk of type 1 diabetes in humans."

Is this the end of the story? The conclusion to be drawn from today's paper is reassuring, but it cannot be applied directly to the current situation because the *H influenzae* type b vaccine used in the 1980s has now been largely superseded by other conjugates, as the latter have been shown to be more effective. On the other hand, there is no reason to think that newer conjugates

should behave any differently in respect of diabetes. There is a need for further data, and long term cohort studies are in place to examine the relation between various factors, including vaccines and the development of pancreatic islet cell autoantibodies and type 1 diabetes mellitus.

This study also illustrates how the same data may be interpreted in such a way as to reach conflicting conclusions.⁴⁻⁸ The importance of personally forming one's own judgment about the original data, rather than relying on someone else's interpretation, cannot be overemphasised. This is particularly important in vaccination, where a misguided "scare" can result in the needless suffering and deaths of children whose parents have been understandably frightened into refusing a valuable vaccine.

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- 3 Classen DC, Classen JB. The timing of pediatric immunization and the risk of insulin-dependent diabetes mellitus. *Infect Dis Clin Pract* 1997;6:449-54.
- 4 Classen JB, Classen DC. Public should be told that vaccines may have long term adverse effects. *BMJ* 1999;318:193.
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Reducing gun deaths in the United States

Personalised guns would help—and would be achievable

The United States has again suffered tragic losses from gunfire within a school. As happened in Mississippi, Kentucky, Arkansas, Pennsylvania, and Oregon, the students and faculty of the Columbine High School in Littleton, Colorado, became targets for young people carrying firearms, this time comprising an arsenal capable of killing 15 (including the assailants themselves) and wounding many more. The shooting on 20 April has been described as one of the deadliest school massacres in the nation's history. What are the options for preventing future massacres—in a nation that has steadfastly resisted the option adopted by other countries of severely restricting the ownership of guns?

Gunfire in the United States now claims 34 000 lives annually. The citizens' stockpile of guns is measured at about 200 million. In the aftermath of schoolhouse slayings we have become accustomed to the litany of suggestions for prevention. These include calls for less violence on television and in movies and video games, the strengthening of family values, involvement of churches, construction of recreational facilities, and early identification and counselling of

troubled youths. Though reducing exposure to media violence and teaching children to behave non-violently may be valuable, they alone will not eliminate school shootings. There are 52 million school aged children in the United States. Even if behavioural interventions were 99.9% effective in this population, over 50 000 children would remain candidates for committing the next school based killings—if they could find an operable firearm.

One common thread throughout all incidents of school shootings is the firearm. With a gun in hand, schoolchildren are capable of mass murder. Without the gun, most children lack the strength, skills, and cunning to plan and execute multiple killings.

When mass shootings have occurred in other countries, the policy response has been to ban and sometimes buy from citizens the type of guns used in the killings. In Colorado the policy question that was scheduled for vote in the legislature was whether it should be made easier for citizens legally to carry concealed weapons. In fact, one Colorado legislator commented after the shootings, "I would feel safer knowing that there was a teacher at my kid's school

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